

FOLDED CASCODE BANDGAP REFERENCE VOLTAGE CIRCUIT

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ABSTRACT

A bandgap reference voltage circuit can advantageously maximize performance, i.e. provide a stable output voltage as a function of input supply voltage and/or temperature. The bandgap reference voltage circuit can include a modified Brokaw cell and a cascode amplifier. The modified Brokaw cell can include two transistors, each transistor including a base, an emitter, and a collector. The collectors of the transistors can be folded into input terminals of the cascode amplifier, thereby providing an extremely compact circuit implementation. In one embodiment, the Brokaw cell can include two lateral PNP (LPNP) transistors, thereby allowing manufacturing of the bandgap reference voltage circuit with standard CMOS technology. Of importance, an output of the bandgap reference voltage circuit can provide a source voltage to the cascode amplifier, thereby ensuring a stable voltage source to the circuit.